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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 1999	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense Wide/BA 3							R-1 ITEM NOMENCLATURE Commercial Technology Insertion Program PE 0603752D8Z			
COST(In Millions)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total Program Element (PE) Cost	18.000	0	0	0	0	0	0	0	Continuing	Continuing
Commercial technology Insertion for First Use Mili/P795	8.905	0	0	0	0	0	0	0	Continuing	Continuing
Open Systems Demonstrations to Expand Commercial I/P796	9.095	0	0	0	0	0	0	0	Continuing	Continuing

(U) **A. Mission Description and Budget Item Justification**

(U) **BRIEF DESCRIPTION OF ELEMENT**

(U) The purpose of the Commercial Technology Insertion Program (CTIP) is to reduce risks and increase opportunities for the insertion of commercial technologies into defense systems. By supporting the required nonrecurring engineering, test and qualification, CTIP enables commercial components to be used confidently in weapon system applications. By demonstrating open system architectures that take advantage of the latest commercial technologies, CTIP increases the ability of defense systems to avoid parts obsolescence and keep pace with commercial technology advancement. Commercial technologies selected for insertion through this Program apply to more than one weapon system and will reduce life cycle costs and improve performance, reliability and maintainability. This Program implements the Department's strategy for using more commercial technologies in military equipment.

(U) The Program is managed by the Office of the Secretary of Defense and executed by Service program offices. Proposed projects for the insertion of commercial technologies and demonstration of open architectures in defense systems are selected by the Services and approved for funding by the OSD. The systems selected as initial applications are planned/ongoing development and modification programs. CTIP has defined two major thrust areas for the FY 97-99 program: P795 - Commercial Technology Insertion for First Use Military Applications and P796 - Open Systems Demonstrations to Expand Commercial Insertion Opportunities.

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(U) P795. The first thrust eliminates barriers to the insertion of a commercial components in a military system. DoD program managers are often reluctant to take the risk of using parts whose characteristics in a military operating environment have not been tested and validated. The business case often does not exist for a single program to make the required investment in adapting and testing commercial items. As a result, military unique items continue to be selected by designers of defense systems, leading to higher costs, lower reliability, increased parts obsolescence, and often lower performance than commercial alternatives. CTIP addresses this problem by providing the engineering and qualification testing needed for the "first user" program, thereby reducing the risk and expense to an acceptable level for follow-on programs. CTIP also provides information to users on test and operational experience with commercial parts in military applications. Two projects were initiated in the first year of the program: (1) commercial microelectromechanical sensors for fuze, safe, and arm devices, with initial applications for undersea weaponry and missiles, and (2) commercial analog to digital signal processing architecture for the F-15 radar.

(U) P796. The second thrust focuses on the system engineering of open system architectures (OSA). OSA are based on commercial market developments and standards. This thrust demonstrates the effectiveness and suitability of these open architectures for use in weapon systems. The purpose is to increase the opportunity for insertion of commercial subsystems and components from sources other than the original equipment manufacturer, and to facilitate upgrades over the life cycle to keep pace with commercial technology advancement. Defense system architectures are often proprietary system solutions that make parts substitution and future upgrades difficult. By contrast, the best practice in the commercial sector is to rely on open system standard interfaces that make upgrading faster, easier and less expensive. Commercial interfaces apply to computer hardware and software and to other electronic, electrical and mechanical attributes.

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<i>COST(In Millions)</i>	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total Program Element (PE) Cost	18.000	0	0	0	0	0	0	0	Continuing	Continuing
Commercial technology Insertion for First Use Mili/P795	8.905	0	0	0	0	0	0	0	Continuing	Continuing

(U) **Project Number and Title: P795 Commercial technology Insertion for First Use Mili**

(U) **PROGRAM ACCOMPLISHMENTS AND PLANS**

(U) **FY1998 Accomplishments:**

(U) Expanded testing and qualification of commercial MEMS sensors for application to Extended Range Guided Munition (ERGM) and Low Cost Competent Munitions. (\$ 4 Million)

(U) Completed system engineering to integrate a commercially based analog to digital signal processing architecture into the F15 radar. Design, prototype, and test the video processor board, integrate it with the digital signal processor board, and conduct bench testing to verify performance. (\$ 4.905 Million)

(U) **FY1999 Plans:**

(U) Beginning with FY 1999, CTIP funding will transfer to PE 604805D. (\$ 0 Million)

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<i>COST(In Millions)</i>	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total Program Element (PE) Cost	18.000	0	0	0	0	0	0	0	Continuing	Continuing
Open Systems Demonstrations to Expand Commercial I/P796	9.095	0	0	0	0	0	0	0	Continuing	Continuing

(U) **Project Number and Title: P796 Open Systems Demonstrations to Expand Commercial I**

(U) **PROGRAM ACCOMPLISHMENTS AND PLANS**

(U) **FY1998 Accomplishments:**

(U) Demonstrated the feasibility of using commercial software and standard commercial interfaces in the avionics suite, mission computer, and warfare management computer of the AV-8B. (\$ 9.095 Million)

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		Commercial Technology Insertion Program
		PE 0603752D8Z

(U) B. <u>Program Change Summary</u>	<u>FY1998</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>Total Cost</u>
Previous Presidents Budget	19.105	0	0	0	Continuing
Appropriated Value	20.000	0	0	0	Continuing
Adjustments to Appropriated Value					
a. Congressionally Directed Undistributed Reduction	-0.895	0	0	0	
b. Rescission/Below-threshold Reprogramming, Inflation Adjustment	0	0	0	0	
c. Other	1.105	0	0	0	
Current Presidents Budget	18	0	0	0	Continuing

Change Summary Explanation: Funding changes are due to congressional undistributed reductions and inflation adjustments.

(U) **Funding:** Reductions are due to Congressional adjustments. The President's Budget submit for FY 1999 transfers the funding to PE 064805D and to the Services.

(U) **Schedule:** N/A

(U) **Technical:** Reductions are due to Congressional adjustments. The President's Budget submit for FY 1999 transfers the funding to PE 064805D and to the Services.

(U) C. **OTHER PROGRAM FUNDING SUMMARY COST:** N/A

(U) D. **ACQUISITION STRATEGY:** N/A

(U) E. **SCHEDULE PROFILE:** N/A

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